

**Abstract:**

(Fig. 1)

A projection objective 1 for short wavelengths, in particular for wavelengths  $\lambda < 157$  nm is provided with a number of mirrors M1, M2, M3, M4, M5 and M6 that are arranged positioned precisely in relation to an optical axis 5. The mirrors M1, M2, M3, M4, M5 and M6 have multilayer coatings. At least two different mirror materials are provided which differ in the rise in the coefficient of thermal expansion as a function of temperature in the region of the zero crossing of the coefficients of thermal expansion, in particular in the sign of the size.